

WHAT IS CLAIMED IS:

1. A fluid medication delivery device, comprising:
a fluid impermeable layer;
a fluid semi-permeable layer, said semi-permeable layer and said impermeable layer cooperating to define a space therebetween, said space defining a fluid reservoir of said delivery device, said semi-permeable layer and said impermeable layer having a continuous seal therebetween to define a periphery of said fluid reservoir;
a fluid inlet communicating with said fluid reservoir, said fluid inlet comprising a valve configured to permit fluid entry into said fluid reservoir, said fluid inlet adapted to permit said delivery device to be selectively connectable to a supply of fluid; and
wherein a fluid is diffusable across said semi-permeable layer in response to a pressure imparted on said fluid.
2. The delivery device of Claim 1, wherein said semi-permeable layer comprises a porous membrane having a pore size of less than 0.25 microns.
3. The delivery device of Claim 1, wherein said valve comprises a one-way valve configured to permit fluid to enter said fluid reservoir and preventing fluid from exit said fluid reservoir through said fluid inlet.
4. The delivery device of Claim 1, additionally comprising at least one internal wall within said fluid reservoir, said internal wall segmenting said fluid reservoir into multiple regions interconnected with one another.
5. The delivery device of Claim 4, wherein said at least one internal wall is defined by a seal between said impermeable layer and said semi-permeable layer.
6. The delivery device of Claim 1, wherein said semi-permeable layer comprises a material selected from one of polyethylene, polysulfone, polyethersulfone, polyvinylidene difluoride, polycarbonate, nylon, high density polyethylene, and polytetrafluoroethylene.
7. A fluid medication delivery device, comprising:
a fluid impermeable pouch having first and second opposing walls, said first wall and said second wall defining a space therebetween, said space defining a fluid

reservoir of said delivery device, said second wall including a plurality of openings therethrough defining a diffusion area of said delivery device;

a fluid inlet communicating with said fluid reservoir, said fluid inlet comprising a valve configured to permit fluid entry into said fluid reservoir, said fluid inlet adapted to permit connection to a supply of fluid; and

a fluid semi-permeable layer covering at least said diffusion area of said delivery device, said semi-permeable layer being configured such that fluid within said fluid reservoir must pass through said semi-permeable layer before exiting said delivery device.

8. The delivery device of Claim 7, wherein said fluid inlet comprises a one-way valve configured to permit fluid entry into said fluid reservoir.

9. The delivery device of Claim 8, wherein a fluid is diffusable across said semi-permeable layer in response to a pressure imparted on said fluid by an external source of fluid pressure.

10. The delivery device of Claim 7, wherein said semi-permeable layer comprises a porous membrane having a pore size of less than 0.25 microns.

11. The delivery device of Claim 7, wherein said openings of said second wall have a diameter of between about 0.25 microns and 0.254 mm.

12. The delivery device of Claim 7, wherein said pouch comprises a circumferential seal between said first and second walls, a periphery of said semi-permeable layer being sealed by said circumferential seal.

13. The delivery device of Claim 7, additionally comprising at least one internal wall within said fluid reservoir, said internal wall segmenting said fluid reservoir into multiple regions interconnected with one another.

14. The delivery device of Claim 7, wherein said semi-permeable layer is positioned between said first wall and said second wall.

15. The delivery device of Claim 7, wherein said semi-permeable layer is positioned adjacent said second wall, external of said pouch.

16. The delivery device of Claim 7, wherein said semi-permeable layer comprises a material selected from one of polyethylene, polysulfone, polyethersulfone, polyvinylidene difluoride, polycarbonate, nylon, high density polyethylene, and polytetrafluoroethylene.

17. A system for delivering a medicinal fluid to a dermal area of a patient, comprising:

a delivery device comprising a fluid impermeable layer and a fluid semi-permeable layer cooperating to define a space therebetween, said space defining a fluid reservoir of said delivery device, a fluid inlet communicating with said fluid reservoir;

a pump configured to apply a pressure to a fluid, said pump being connectable to said fluid inlet to supply a flow of said fluid to said fluid reservoir during a delivery cycle;

wherein, when said infusion pump is connected to said fluid inlet, said fluid within said reservoir is diffusible across said semi-permeable layer in response to said pressure applied by said infusion pump.

18. The delivery device of Claim 17, wherein said semi-permeable layer has a pore size of less than 0.25 microns.

19. The delivery device of Claim 17, additionally comprising at least one internal wall within said fluid reservoir, said internal wall segmenting said fluid reservoir into multiple regions interconnected with one another.

20. The delivery device of Claim 17, wherein said semi-permeable layer comprises a material selected from one of polyethylene, polysulfone, polyethersulfone, polyvinylidene difluoride, polycarbonate, nylon, high density polyethylene, and polytetrafluoroethylene.

21. A fluid medication delivery device, comprising:

a fluid impermeable pouch having first and second opposing walls, said first wall and said second wall defining a space therebetween, said space defining a fluid reservoir of said delivery device, said second wall including a plurality of openings therethrough defining a diffusion area of said delivery device;

a coiled wire member covering at least said diffusion area of said delivery device, said coiled wire member comprising a plurality of adjacent wire sections defining a plurality of gaps therebetween, said coiled wire member being configured such that fluid within said fluid reservoir must pass through said coiled wire member before exiting said delivery device.

22. The fluid delivery device of Claim 21, wherein said coiled wire member comprises a single wire element extending in a substantially consistently increasing radius from a first end to a second end of said wire element to form a coiled shape.

23. The fluid delivery device of Claim 21, wherein said coiled wire member is substantially planar.

24. The fluid delivery device of Claim 21, wherein a peripheral edge of said coiled wire member is secured to said second wall of said fluid impermeable pouch.